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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/853,658	05/10/2001	Dirk M. Beyer	10013653-1	6515

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HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER
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TARAE, CATHERINE MICHELLE

ART UNIT	PAPER NUMBER
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3623

DATE MAILED: 06/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/853,658	<b>Applicant(s)</b> BEYER ET AL.	
	<b>Examiner</b> C. Michelle Tarae	<b>Art Unit</b> 3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 27, 2006 has been entered.

Claims 1, 7 and 13 have been amended. Claims 1-19 are now pending in this application.

### ***Response to Amendment***

2. Applicant's amendments to claims 1, 7 and 13 are acknowledged.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 5-7 and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clarke (U.S. 5,502,636).

As per claim 1, Clarke discloses a computer readable medium having instructions for causing a computer to execute a method for segmenting customers by promotion, said method comprising:

segmenting each customer in a plurality of customers into a segment in a plurality of segments for each promotion in a plurality of promotions, such that for a promotion there is a corresponding set of segments, wherein each segment in said set of segments represents a first respective group of customers having a certain response to said promotion (col. 2, lines 20-23 and 33-47; col. 3, line 66-col. 4, line 7; Customers are initially identified, or grouped, based on their response to an advertisement, where the response is a request for certain coupons.); and

separating, based on responses to said plurality of promotions, said plurality of customers into a plurality of meta-segments, wherein each meta-segment in said plurality of meta-segments represents a second respective group of customers sharing a same response to all promotions in said plurality of promotions (col. 2, line 65-col. 3, line 6; col. 4, lines 26-32; Customers are identified, or grouped, again based on their redemption or non-redemption of the coupons they requested.).

While Clarke does not expressly disclose using the plurality of meta-segments to design a promotional campaign, Clarke does disclose using the meta-segments to conduct future marketing research and enhance future specific coupon databases, where the coupon databases include consumer profiles associated with the coupons they have or have not redeemed (col. 1, lines 46-50; col. 3, lines 6-8 and 13-21). It is old and well known in the art to use customer responses to promotions as a basis for

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conducting future promotions. For example, a customer who has redeemed a particular coupon over and over in the past, is likely to redeem the coupon in the future, and will therefore, most likely be included in future promotions that include receiving that particular coupon. Thus, the marketing research and enhanced customer and coupon databases that Clarke develops based on the meta-segments, which are based on responses to coupon promotions, may be used to design promotional campaigns. At the time of the invention, it would have been obvious to a person of ordinary skill in the art for the system of Clarke to use the meta-segments to design a promotional campaign because the meta-segments represent customers that have been identified with specific behavioral characteristics related to the redemption of certain coupons, thereby providing a specific target audience shown to have a favorable response to certain coupons, thereby enhancing the effectiveness of the promotion as disclosed in Clarke (col. 1, lines 22-25).

As per claim 5, Clarke does not expressly disclose segmenting each customer by using a segmentation method selected from the group of CART, k-means, k-harmonic means and clustering. However, clustering is old and well known in the art of database mining to group records that share a common characteristic. Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art for the system of Clarke to utilize a well known segmentation method such as clustering to segment customers as clustering is known in the art to effectively and accurately group records that share a common characteristic, which is beneficial to the system of Clarke, which requires grouping customers who share the same response to a promotion.

As per claim 6, Clarke does not expressly disclose associating with each customer a vector representing a combination of a segment and a promotion. However, vector analysis is old and well known in the art of multidimensional optimization of marketing campaigns, where a vector may represent the columns and rows of a matrix, thereby providing the benefit of a multidimensional representation of correlated data with which to create clusters or groupings of similar data (such as customers with similar characteristics). Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art for the system of Clarke to utilize vector analysis to associate with each customer a segment and a promotion as vector analysis is known for facilitating the correlating of data in an effective and efficient fashion.

Claims 7, 11-16 recite substantially similar subject matter to claims 1, 5 and 6 above. Therefore, claims 7, 11-16 are rejected based on the same analysis of claims 1, 5 and 6 above.

5. Claims 2-4, 8-10 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clarke (U.S. 5,502,636) as applied above, and Dinerstein (U.S. 4,872,113).

As per claim 2, Clarke does not expressly disclose the method as recited in claim 1, comprising specifying a number of meta-segments based on customer demographics, wherein said customer demographics define characteristics of said plurality of customers. Dinerstein discloses identifying which groups of customers,

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based on demographics, responded favorably or unfavorably to a given advertisement or promotion (col. 3, lines 14-18). Clarke and Dinerstein are analogous art in that each discusses creating a target audience based on customer responses to promotions in order to improve the effectiveness of the promotion (Clarke: col. 1, lines 22-25; Dinerstein: col. 3, lines 18-20). Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art for the system of Clarke to specify the meta-segments based on customer demographics because doing so provides additional information about the customers, thereby enabling more comprehensive targeting of customers for promotions and analysis of promotions (Dinerstein: col. 3, lines 18-20 and 47-50).

As per claim 3, neither Clarke nor Dinerstein expressly discloses maximizing the number of customers represented by meta-segments. However, it is old and well known in the art of promotions and advertising to maximize the number of customers a promotion or advertisement is directed to because doing so increases the rate of favorable responses to the promotion or advertisement. For example, the rate of favorable responses will likely increase for a promotion directed to a target audience of 10,000 customers compared to a target audience of 100 customers. Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art for the system of Clarke to maximize the number of customers represented by meta-segments as doing so increases the effectiveness of the promotion because of the increase in target audience the promotion is directed to.

As per claim 4, Clarke discloses executing an algorithm for determining a number of customers in each meta-segment to receive a particular promotion (col. 2, line 65-col. 3, line 6; col. 3, lines 16-21; Figure 1; Redemption data is collected and collated using a redemption database, where a comparison is made with a customer profile database to identify who redeemed and who did not redeem coupons, thereby creating the meta-segments. As an algorithm is nothing more than a procedure for doing something, the system uses an algorithm to create the meta-segments by employing a computer and databases to interact electronically to receive, collate and analyze data in order to identify the redemption behavior of customers.).

Claims 8-10 and 17-19 recite substantially similar subject matter to claims 2-4 above. Therefore, claims 8-10 and 17-19 are rejected based on the same analysis of claims 2-4 above.

### ***Response to Arguments***

6. Applicant's arguments are moot in view of the new grounds of rejections provided above. Additionally, support for Examiner's Official Notice assertions regarding clustering and vectors is found in the patents in the prior art made of record listed below.



***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Kilger et al. (U.S. 7,035,855) discusses a system for integrating information from disparate databases to predict consumer behavior;
- Galperin et al. (U.S. 6,993,493) discusses a method for optimizing a marketing campaign using vector analysis;
- Philips et al. (U.S. 6,792,399) discusses using clustering, vectors and k-means techniques for creating forecasts based on similarities among data; and
- Kanojia et al. (U.S. 6,845,396) discusses targeting advertisements based on user profiles.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Michelle Tarae (formerly, C. Michelle Colon) whose telephone number is 571-272-6727. The examiner can normally be reached Monday – Friday from 8:30am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz, can be reached at 571-272-6729.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "C. Michelle Tarae".

C. Michelle Tarae  
Patent Examiner  
Art Unit 3623

June 8, 2006